sources of infection passed the pulmonary and entered the systemic circulation must remain a matter of speculation. There were no lung symptoms; but a small deep-seated embolus in the lungs might easily escape diagnosis and yet disseminate secondary emboli through the systemic circulation.

Then if such primary embolus be not repeated to disorganise a large area of lung tissue, there is a fair chance of recovery. By the ligature of the vein we practically cut off the transit of these primary emboli. The secondary emboli are not in such vital parts, and easily yield to treatment by free incisions. It is the number and severity of the primary emboli in the lungs which destroy life in these cases.

The treatment adopted of at once ligaturing the internal jugular vein was based on the supposition that this vein was the means by which the disease was being disseminated. The reason why all the operations were not done at the same time was that the patient was simply too weak to bear such prolonged treatment. He could bear, as is seen by the result, each operation separately, but if the trephining had been done at the same time as the ligature of the vein I think he would have died. The order of the operations in these cases should, in my opinion, be the same as was employed in this patient, namely, first the ligature of the transmitting vein, so as to immediately cut off the communication with the rest of the circulation; secondly, the evacuation of the primary seat of disease; and, thirdly, the opening and cleansing of all the secondary foci that can be reached. And if this cannot all be done at one time, on account of the patient's condition, they should be carried out in the order indicated, with twenty-four or forty-eight hours' interval, according to the strength and general condition of the patient.

This paper should not be concluded without a reference to Mr. Ballance's work on this subject, which will be found in the Medical Society's *Transactions* for 1890, vol. xiii. It is to his energy and perseverance at St. Thomas's Hospital in the treatment of this otherwise hopeless disease that I am chiefly indebted for the pleasure of recording this successful case.

CATARRHAL ENTERITIS:

ETIOLOGY AND TREATMENT.

BY DR. BOTTENTUIT,
Consulting Physician at Plombières.

THE expulsion from the intestines of mucous or false membranes is a symptom which is frequently observed in different morbid conditions and of different degrees of gravity. Perhaps it is a mistake to consider this morbid condition as a pathological entity; we may admit that it ought rather to be looked upon as a symptom characteristic of several pathological states than as a distinct and specific disease. At different times and by different authors it has been described under various names: by Van Swieten under that of glutinous diarrhœa; by Good under that of tubular diarrhœa; by Whitehead under that of mucous affection of the intestine; by Powell under that of painful affection of the intestine; Nonat calls it glairy enteritis. For reasons which I hope to develop in this paper, I propose to call it catarrhal enteritis. The diversity of names given by different authors renders the researches into its history very difficult.

Some modern authors have carefully studied the pathological anatomy of the disease, the exact seat, and the alterations it induces in the mucous membrane. But it is an affection which rarely causes death, consequently reliable information on these points is limited, and inversely the diversity of opinion as to them is considerable.

Researches as to the symptomatology of the affection have been more fortunate. In the 16th century this affection was described under the name of enteritis. It has been divided into two principal forms: first, that in which false membranes existed; and secondly, that in which the mucous secretion of the intestine formed an agglutinated deposit on the membrane of the intestine, and sometimes acquired such a density and cohesion as to be mistaken for false membranes. These products are either excreted with the fæces, or may even be so abundant as to provoke, by their presence, the act of defæcation, and in these cases it is found that they are the sole constituents of the excreted mass.

The form, the consistence, the colour, and the quantity of these masses are very variable. Sometimes they present a membranous form, and are composed of long filaments, of cylinders, of tubes, often of a ribbon-like appearance. This last form explains why they have so often been mistaken for tænia. Perhaps the most frequent is the glairy form. In this the dejecta may appear as amorphous matters, sometimes mixed with fæcal matters. At other times they form a voluminous mass large enough to fill a tumbler; in other cases they resemble sputa. All these different forms may be found in the same subject. But whatever the form or whatever the amount expelled, the composition of the mass is always identical. It is formed of amorphous matter, semi-transparent, containing in its centre some epithelial cylindrical cells, leucocytes, salts, and fatty granules, and invariably large colonies of bacteria.

It would, perhaps, be an error to suppose that the alterations of the intestinal secretions constitute the whole of this affection. I believe that there are also inflammatory lesions of the mucous membrane present. But, as we have already said, there are differences of opinion on this point amongst the authors who have been able to make *post-mortem* examination of such cases. The expulsion of mucus from the anus is a symptom well described in many affections—as, for instance, dysentery and certain well-defined forms of enteritis. The object of this paper is to call attention to a special form, of which I have been fortunate enough to observe 460 cases. The study of this large number of cases has enabled me, as I hope to show, to obtain some fresh information as to the etiology of the affection.

All the patients complained of difficulty of digestion; generally the description they gave of their symptoms was very simple. It was that of all dyspeptic patients. The digestion was difficult, lasted a long while, was accompanied by swelling and tympanites of the stomach after meals, sometimes immediately after, sometimes some hours later, during the second or intestinal digestion. The intestinal function was deranged. At first there was constipation, but after some time alternations of constipation and diarrhœa, the action of the bowels became more and more difficult, and was sometimes painful. Often the quantity of excreta was insufficient. The patients remarked that they had not the relief that a thorough and complete action of the bowels ought to give.

When their attention was called to the motions they remarked in them the presence of a glairy substance of most various forms. Often they were under the impression that fragments of a tænia or a lumbricoid worm had been passed, sometimes the tubular form induced them to attribute the secretion to an exfoliation of the mucous membrane of the intestine.

Generally these secretions were mixed with fæcal matter, sometimes they constituted the whole of the motion, which was more or less considerable; sometimes they compared it to a bronchial secretion.

The colour of the secretion was variable. It depended on the length of sojourn in the intestine, or it might undergo a change by mixture with the intestinal secretions or with the products of digestion. I have found them in some cases, immediately after expulsion, clear and transparent and resembling the white of an egg. They sometimes exhibit streaks of blood, but this is rare, except where the patients suffer from hæmorrhoids.

The study of the discharges is important, as without them it would be difficult to find any characteristic signs which would enable us to diagnose this affection. These patients all suffer from dyspepsia, they all present a coated condition of the tongue, more or less anorexia, swelling and discomfort of the stomach or intestines—in a word all the symptoms of gastro-intestinal dyspepsia. The examination of the abdomen reveals nothing or only those symptoms which characterise colitis or enterocolitis. The symptoms I have just enumerated belong to many intestinal affections. Palpation or percussion does not offer any special indications.

Professor Sée, whose work on *Atonie Intestinale* is so remarkable, is of opinion that prolonged constipation has induced an irritation of the intestine. No doubt the presence of hardened fæcal matter has induced an inflammatory con-

dition of the mucous membrane of the intestine, which acts on its secretive power and induces a hypersecretion of mucus and thus produces the alternations of diarrhœa and constipation which Niemeyer has so well studied.

The cerebro-spinal system appears also to play an important part in the production of these symptoms. The remarkable sedative effects produced by the waters of Plombières confirm this view. A hypochondriacal tendency and all the various symptoms described under the name of neurasthenia are frequent concomitants of this affection.

During twenty years of practice at Plombières I have treated no fewer than 4,500 patients affected with gastro-enteric troubles, whether of the nature of gastric dyspepsia, of enteritis, of intestinal atony, or chronic diarrhœa. Of this number of patients I find that no fewer than 460 were affected with glairy enteritis, an affection which, I have already said, should not be confounded with colitis or dysentery.

Women are more subject to this affection than men. I find 250 cases of women, 150 of men, and 60 of children. Almost all these patients presented signs of the arthritic or herpetic diathesis. I have often been able to trace the causation of the glairy secretions to the action of cold or damp.

It is important carefully to separate the cases which we are now studying from these which are usually designated as cases of entero-colitis. None of the patients included in my statistics presented the signs of inflammation of the intestine as revealed by palpation or percussion, but in all these cases the intestine secreted almost continually glairy mucus. They exhibited from time to time, and almost always under the influence of cold or damp, exacerbations of these symptoms. They all bore signs of the arthritic diathesis.

Like all other such patients, they were frequently affected by exaggerated secretion of the mucous membranes of a catarrhal nature. This is my principal reason for giving the name of "catarrhal enteritis" to this affection.

In point of age, the greater number of adult patients were between 20 and 50. In the case of children, between 4 and 15. In the 250 cases of women I have seen it coincide twenty-five times (10 per cent.) with pseudo-membranous metritis or dysmenorrhœa of like character.

The affection was often, but not always, preceded by a more or less long period of constipation. Once, however, declared, the gastro-intestinal symptoms generally increased.

I think that these cases ought to be divided into two groups:

1. The first group, which is the less numerous, is composed of those in which the affection is slight, and causes no considerable effects. We have seen many patients who were in the habit of expelling glairy mucus from the intestine, and yet retained all the appearance of good health; their strength was unimpaired, there was no loss of flesh, and the action of the bowels was regular. From time to time, especially when the weather was cold or damp, they suffered from severe colic, and expelled, but in small quantities, glairy mucus. They complained, however, much of the painful efforts of defæcation and of tenesmus; but they never complained of the passage of blood.

2. As already said, the second group is a more numerous one. They presented variable and very serious symptoms. In the case of children I found loss of flesh, loss of appetite, low spirits, a general want of development, with frequent colic. In the case of girls, the appearance of the menses was delayed; none of the girls I attended aged less than 15 had menstruated. As already stated, all these patients suffered from gastro-intestinal symptoms of a dyspeptic kind; often from constipation and diarrhœa, rarely from diarrhœa alone. I will not dilate on these symptoms, which are those often observed in chronic affections of the digestive tube.

The patients treated for this affection at Plombières had all previously undergone other treatment. All had at first been subjected to a treatment by purgatives. They invariably gave a certain amount of relief at first, but their continued use appeared to have a tendency to increase the intensity of the symptoms. Drastic purgatives should be avoided. Saline purgatives, such as the saline waters, give relief for a time: they never cure, but, on the contrary, aggravate the intestinal irritation. Purgatives are, however, necessary. Castor-oil and the milder laxatives are those which give the best results, and are least irritating to the mucous membrane of the intestine. External derivatives, blisters, painting with iodine, the actual cautery by the *pointes de feu* are often useful. As to diet, I recommend the same as in gastro-intestinal dyspepsia. A milk diet does not appear to answer well.

The treatment of the affection at Plombières is the following: I generally recommend the tepid baths. Thanks to their calming and sedative action on the nervous phenomena which so many of these patients exhibit, they render great services. One cannot doubt of their action on the cerebro-spinal system, and consequently on the nerves of the intestine.

At the same time that the patients are taking the baths just described, we often administer on the abdominal region a douche, styled "Tivoli." It is a very mild douche, without any direct percussion, and acts as a derivative.

Internally, and according to circumstances, I prescribe the water of the *Source des Dames* or of the *Source Savonneuse*.

But a more important agent is the *douche ascendante*, and it is to this treatment that I attribute the good effects I have so often observed. This douche is a continued irrigation of the intestine by mineral water, avoiding too great pressure. The installation of these *douches ascendantes* at Plombières is very excellent. They can be given to patients without subjecting them to an uncomfortable position or exposing them to any fatigue. The most scrupulous care in all hygienic matters is observed. The waters generally used for this purpose are those of the *Source des Dames*, either alone or mixed with that of the *Source Savonneuse*. The prolonged contact of the mineral water with the mucus of the intestine is an internal bath, which produces excellent effects on the inflamed membrane. The pains decrease. The mucous secretions are modified, and expelled much sooner and with greater ease than they otherwise would be.

I need not say that Plombières is one of the oldest mineral stations in Europe. Since the time of the Romans it has been a favourite resort of sufferers from all kinds of rheumatic affections. The principal indications of these waters are rheumatic affections accompanied by nervous erethism and also the visceral manifestation of that diathesis. The installation of the baths, the douches, and the vapour baths are in all respects excellent. There is every facility for obtaining good massage. The exceptionally high temperature of the waters of Plombières (from 100° F. to 156° F.), and the presence of arseniate of soda in them, render them eminently useful to patients suffering from gout or rheumatism. As I have already stated in this paper, almost all the patients suffering from intestinal catarrh were of a rheumatic diathesis. I have therefore often combined with the treatment directly suited for the intestinal catarrh that which renders so great service to other arthritic patients, namely, the use of vapour baths and massage, and with the happiest results.

THE ORIGIN AND SEAT OF EPILEPTIC DISTURBANCE.

By CHARLES MERCIER, M.B.

In Professor Horsley's address on this subject are certain statements and doctrines in which I am much interested, as I have always believed that in the study of epilepsy will be found to be the "way in" to a knowledge of the working of the nervous system. Perhaps I may say that I have studied the subject minutely for many years, and for months spent many hours every week in a ward containing some 150 epileptic patients, in which the lapse of five minutes without the occurrence of a fit in one or other of the patients was exceptional. This experience has taught me that the "phenomena which mark the attack" of idiopathic epilepsy are not always as Professor Horsley states them. (1) "Semi-involuntary movement," which he cites as the first occurrence in the fit, is very often absent. It is a species of aura—a "motor aura"—and may or may not be present. (2) "Change in respiration, inspiratory spasm with cry and commencing asphyxia," is the second phenomenon. Omitting the cry, which occurs in a minority of cases only, this agrees with my observations; but it should be added that simultaneous with the inspiratory spasm is a widespread spasm of other muscles. In fact, the statement should be "widespread or practically universal spasm, of which fixation of the thorax is the most conspicuous feature." This applie to *grand mal* only. In